

THE DIVERSITY OF THE CULTURES OF THE ISTURITZ CAVE

DURING THE UPPER PALEOLITHIC

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INTRODUCTION

The Isturitz Cave is located in the Pyrénées Atlantiques Department, 35 km from Bayonne, in the heart of the northern Basque Country, in the Arbéroue Valley. This valley is blocked perpendicularly by a rocky spur: the Gaztelu hill, which contains a set of archeologically remarkable caves.

The geographical location of the valley is privileged and this unquestionably promoted the arrival here of Paleolithic Man from 40,000 to 10,000 years ago. This valley is located some thirty km from the current coast line (Bay of Biscay), and 25 km from the first peaks of more than 1000 meters. It is bordered by low hills, the peaks of which almost never reach 400 meters.

Within this valley, the Gaztelu hill is part of a vast territory forming a link between the North / South, East / West circulation axes, thereby promoting relationships and influences between the European continental (Aquitaine) populations and those of the Iberian Peninsula (Vasco-Cantabrian and the Upper Valley of the Ebro).

The Gaztelu hill is a karstic ensemble which includes three major superposed networks:

- **The Isturitz Cave**, the upper network, includes impressive Paleolithic resources: parietal art, portable art, and habitats with multiples activities are found here.
- **The Oxocelhaya cave**, the middle network, is better known in Prehistory for its parietal art, the main bestiary of which brings together the classic horse / bison duo.
- **The Erberua cave**, on the valley level, has living floors and parietal art, simply inventoried but not exploited archeologically for the moment.

For the Upper Paleolithic populations, the Gaztelu hill offered a sufficiently vast domain with the three superposed caves and the size of the halls, such as for example the main gallery of the Isturitz Cave (120 meters long, 15 meters high and 30 meters wide).

Halls of these sizes could house numerically large and chronologically continuous populations.

The Isturitz Cave reveals one of the most eminent stratigraphies represented by close to 10 meters of archeological layers:

- **Middle Paleolithic**, with two Neanderthal occupations,
- **Upper Paleolithic**, with the Aurignacian, Gravettian, Solutrean and Magdalenian cultures.

The family saga and the archeological adventure

Following phosphate extraction operations in 1896, the discovery of numerous artistic artifacts and tools from “the Age of the Reindeer” aroused interest with Prehistorians and the owners of the land: André Darricau, grandfather of the current owner, accepted archeological research on his land over many years. This scientific interest was transmitted to the following generations, to his children and grand-children, as a fundamental moral legacy of the family “Hitaz Hitz” (The word given).

From 1912 to 1923, Emmanuel Passemard excavated 300 m² in the Isturitz Cave and established the first archeological stratigraphy of the cave. He reported on his discoveries in 25 articles and three rather complete publications.

From 1928 to 1959, the Count and the Countess de Saint Périer resumed the scientific exploration of the Isturitz archeological resources. They worked mostly on the recognition of the various cultures of the site and on research on works of portable art. They published their studies in the form of a monograph in three volumes.

Georges Laplace started to work on the site as of the 1950's, and took part in some projects with the Countess de Saint Périer. From 1970 until the 1990's, he supported the research on parietal art carried out by J.D. Larribau, and S. Prudhomme. Very few publications emerged from this unfortunately, only preliminary notes in several scientific journals.

Research work resumed in 1996, thanks to the desire for preservation, and also to the motivation of the owners and the Aquitaine Regional Archeological Service. An archeological diagnostic survey was carried out over the course of three years. It opened up extensive and rich thinking about the human occupation of the Isturitz Cave, particularly with regard to the succession of cultures and knowledge of human activities for each of these cultures.

For this summary of our understanding of the site, we will cover respectively the various successive cultural sequences: **the Aurignacian, the Gravettian and the Magdalenian**. We will not discuss the **Solutrean** culture, because the artifacts are too few and there has been no new diagnostic of this culture in recent years.

THE ARCHAIC AND EARLY AURIGNACIAN:

From 1999 to 2010, Christian Normand carried out Aurignacian excavations of the Saint Martin Hall: Some fifteen m² were excavated, more than thirty archeological units were identified, corresponding to as many periods of occupation. The vestiges are highly numerous and varied. It is the largest Aurignacian habitat of the Western Pyrenees.

These various periods of occupation were sequenced into three cultural levels, with a predominance of the two oldest sequences:

The archaic Aurignacian: 36340 and 38020 BP not calibrated (average)

The early Aurignacian: 31470 ± 270 to 32420 ± 369 BP not calibrated (difference)

The typical Aurignacian: 29400 ± 370 BP not calibrated (1 date)

Paradoxically, while the Aurignacian occupations follow on from each other in generational terms, there is great cultural continuity, characterized by the persistence of the habitat and the variety of activities developed as of the archaic Aurignacian:

- α **Seasonality:** the cave is occupied during the summer periods

α **Hunting:** mainly of horses, then bovines and lastly reindeer. The people clearly hunted on other territories, and brought back the pieces of the carcasses that were richest in meat.

α **The bone industry:** The industry is relatively abundant.

The awls and smoothing tools are material from hunted animals: ribs and long bones of horses and bovines. This industry indicates that there was work on and processing of hides.

The assegai tips, of which the cracked base shapes, typical of Isturitz, were made from reindeer antlers.

α **The stone industry** is very rich, more than 1500 tools were found during the excavations. They are also diversified in terms of the material of origin: the people used local flint and, periodically, flint from the upper Ebro Valley. They produced large series of strips (60% of the tools), interpreted as probable reinforcements of projectiles or knives, and blades.

α **Decoration:** a very large number of perforated herbivore teeth were found, as were beads of varied typology, pendants, using very diverse materials (amber, lignite, hematite, talc, etc.), we observe a differentiation in the fabrication, the people imported manufactured beads and sometimes cut them on site.

α **The remarkable objects:**

The “Venus” pendant of talc stone, which represents a woman’s bust

The pierced human tooth: an emblematic object of Aurignacian spirituality, symbolized by the conservation of a part of a human body, worn and kept by a living person.

The flute that was found during the older excavations. It indicates the presence of harmonic and melodic musicality among the Aurignacian populations.

The etched pebble: dated between 32,400 and 34,630 BP not calibrated. It is the oldest etched pebble currently known, bearing a figuration. It is difficult to interpret but is considered likely to be the hind quarters of a reindeer.

The diaphysis with crosses: dated from 34,630 to 36,550 BP not calibrated. The diaphysis with crosses is among the oldest examples in the world of a bone with crosses, which is typically found in the archaic Aurignacian or in the first uses of complex lines involving crossing lines.

In the cultural sequence, from the archaic Aurignacian to the typical Aurignacian, the continuity of occupation of the site was somewhat interrupted, then there was a new flourishing of occupation. The activities remained the same, although with some variation in the bone and stone industries. They go in the direction of diversification of the flint tools used (strips and scrapers), decorations (more and more varieties of raw materials), and more numerous sharpening tools for the bone industry.

As for the most recent Aurignacian layers, the occupations seem to have been shorter, with more and more frequent periods of abandonment of the site, making way for carnivores (bear or hyena). Quantitatively, these archeological layers are much less rich than those of the archaic and old Aurignacian.

Could this be a progressive abandoning of this habitat, following a proliferating cultural development during the archaic and Early Aurignacian?

Was this site marginalized because of the development of another place?

Was there a change of behavior in the territory?

What would be the reasons for this? Climate changes, changes in cultural behaviors? Desire for new sources of supply?

Was there a territorial shift?

THE GRAVETTIAN

Following the work of the past archeologists, the Gravettian layers in place no longer exist; only piles of rubble remain in the cave. The rubble was reworked during the recent excavations in order to re-evaluate the Gravettian culture of Isturitz and to qualify the Gravettian collection conserved at the MAN.

Two sedimentary layers were identified, one only was re-evaluated. We were able to determine the following facts:

- α **Seasonality:** The cave was occupied during the cold seasons and in spring
- α **Hunting:** The bison is the dominant hunted animal, followed by the horse and then the reindeer.

According to the analysis of the mortality profile, the species, particularly the bison, were slaughtered between the ages of 6 and 9 years old, with a large presence of young individuals, which suggests the slaughter of pregnant females, or of females and their young.

Among the Gravettians, there was a desire to make the best use of the species that were hunted. In autumn, the female bison were at their maximum weight, their hides were of optimal quality, and they consequently provided a good yield of marrow and fat. The study of the functional macro-traces revealed wear of bone tools specifically related to work with hides.

The carcasses discovered at the site lead us to assume that there was a strategy of transport of parts of these carcasses, in particular the long bones and mandibles, rich in lipid resources, particularly the marrow.

All of the bones bear indications of all of the phases of butchery.

- α **The bone industry**

The work on bone concerns chiefly and exclusively domestic work.

The tools that are quantitatively the most common are smoothing tools and awls.

The remainder of the bone artifacts are sharpeners, small two-pointed tools, intermediary tools and tubes.

Tools such as pickaxes, pegs and digging sticks also demonstrate the rich use of animal ribs by the Gravettians. A spoon was also found.

It seems that bone work was done on site, despite the extremely small amounts of waste from the cutting of bones.

- α **The stone industry:**

We have an exceptional number of artifacts: 500,000 elements in the rubble, versus only 11,205 tools and 464 stone cores in the older collections.

These tools are dominated by the presence of Noailles burins, representing more than 50 % of the tools used.

The cutting activities were very substantial in the cave, even if the chain of operations is today difficult to specify because of a “certain flexibility” of the cutting from stone cores for the obtaining of supports, both on strips and on shards.

The flint raw materials are almost exclusively from Flysch (70 %), about 20 to 30 km from the site. The remaining 30 % come mostly from Chalosse (20%), and the best quality materials are from the south of the Pyrenees, from the sectors of Trevino and the Urbasa plateau.

☒ **The remarkable objects**

Some fifteen flutes supplement this bone industry collection.

The data allow us to interpret the Gravettian site of Isturitz as being a habitat site with varied activities based around hunting. It seems that the populations brought their equipment, repaired it on site and then set out again with crude supports. All of these indices suggest the idea of social planning and organization.

The original feature of the Gravettian site is consequently its non-specialization, which distinguishes it from other known Gravettian sites, located some one hundred kilometers away (Gatzarria, Tercis).

In the Gravettian, Isturitz is thought to have been a place of temporary aggregation of various communities, whose movements extended between the North of the Iberian Peninsula and the Bay of Biscay.

THE MAGDALENIAN

The Magdalenian populations seem to have covered 1000 m², they occupied almost the entire space of Isturitz Cave: St Martin hall, both chambers, the Large Hall and the Phosphate Hall.

The richest archeological layer is the middle Magdalenian, while the Upper Magdalenian sequences are less prolific.

☒ **Hunting:** Horses are largely dominant, followed by bovines and a wide variety of fauna: Cervidae, goats, birds, carnivores, etc.

☒ **The bone industry:** It is particularly abundant and ornate. There are thousands of objects, and there is serial production of tools: needles with eyes, smoothing tools, awls, assegai tips, harpoons, etc., which are thought to have been produced on site.

☒ **The stone industry** produced tens of thousands of tools, with a very large majority of burins, from local sources and from further away in the South Pyrenees territory for the procurement of flint.

☒ **Decorations:** There are many decorative items with several dozen perforated teeth (Reindeer, Fox, Horse, Stag, etc.), some with double perforation, lignite and amber beads, and shells, particularly periwinkles. It is curious to note that among the shells there are no Mediterranean species, unlike the observations from other Magdalenian sites located further to the West.

☒ **The remarkable objects**

The semi-circular sticks There have been many interpretations of the semi-circular sticks but they still remain enigmatic. They are specific to Isturitz because of the quality of the decorations with spirals

and their variants, from one stock to another. The interweaving of volutes and spirals is complex and reflects a strong esthetic among the Magdalenian populations.

The pierced sticks: are an original series, the bison heads are represented longitudinally here at Isturitz on an antler support. The very high quality of the work in very *bas relief* highlights the anatomy of the bison heads. The originality of the artifact lies in the vertical and horizontal arrangement of two heads, back-to-back.

The cut-out contours: these objects were made on site. All of the steps of fabrication are available: made from the hyoid bone of horses, with serial production.

The sandstone statuettes: 138 sandstone statuettes were discovered, the last one in the most recent excavations: mostly horses and bison were sculpted, with the flattened *ronde bosse* technique. The latest sandstone work discovered represents a feline. Each statuette has a crack, which thus far has been considered intentional. These pieces are now the subject of a new study.

The enigmatic feline: This feline made of antler bears associated signs: mesh patterns, often seen as being the representation of assegais with tails. It is unique.

A horse head: stunning amber sculpture; it is a unique item.

Reindeer head: discovered in recent excavations, it supplements the many series of *ronde bosse* sculptures made of reindeer antler.

The Isturitz site is a major site for the knowledge of Magdalenian occupations, and once again, the Magdalenian populations received and disseminated influences to all of the neighboring territories of Aquitaine, the Pyrenees and Northern Spain.

The collections are such that they can only be presented very briefly in this paper. The very richness of the human artifacts clearly indicates long and intensive human occupation. In light of the diversity of the vestiges, a multitude of activities took place within the entire space of the Isturitz Cave.

The main elements recount, once again, the issue of the very evolution of a culture and its transition in its early and middle phases.

CONCLUSION

Not all of these cultural sequences are unanimously represented. The Solutrean phase has yielded too few artifacts to allow for its full consideration.

Human occupation is therefore clearly established in the Aurignacian, Gravettian and Magdalenian, both through a habitat of substantial richness in terms of portable art, bone working, stone working, and the rich parietal art in the three caves, which remains poorly known however. We are currently overcoming this lack of knowledge through a new research program directed by Diego Garaté, of which the 13 varied orientations (geomorphology of the cave, stylistics, technique, forms, etc.) will allow us to inventory the richness, the originality and the artistic influences of the artifacts on the walls and to compare them with data for the habitat and data from the other Pyreneo-Vasco-Cantabrian sites.

The cultural sequences of the archeological site raise questions regarding fundamental notions linked to cultures, societies and the territories covered by human beings and the definitions that we give to these terms.

We noticed, in each of the major cultures that we presented, a society perfectly organized around activities of domestic life, keeping in mind that certain activities required planning and work time management (e.g. skins, specialized hunting, etc). These notions thus imply a division of labor and social organization, allowing individuals working in a social group to receive assistance in their daily work. Such effects are the **universal bases of any human society organizing its life as a group.**

We have observed this in each culture, which brings us to the issue of the word **culture** that we use.

According to the definition of André Leroi-Gourhan, ethnographically, *“a culture is the set of values, knowledge and behaviors by which individuals mark their belonging to an ethnic group and indicate their difference with foreigners.”*

But in prehistory, such a definition cannot be used. The word culture is given to an **association of a certain number of elements of the material culture of a population, those which are conserved and which archeologists of prehistory are able to recognize.**

For each culture, the populations developed techniques and travel circuits to allow each human group to procure raw materials, either through human movement, or through movement of the manufactured objects or raw materials.

Within a culture, the populations, on the generational and societal levels, influence one another reciprocally as a function of the territories covered, the populations they come into contact with, and transmissions of know-how.

Isturitz is thus an important place of diversification: with its cultural multitude, the proliferation of sources of raw materials, the influences of artistic creations, the economies developed and the territories covered.

Despite the persistence over a very long time of the know-how and emblematic objects, the Isturitz site raises the questions of the decline of each of the cultures we mentioned, although they had been proliferating at certain times in history.

Why did these cultures decline to the point of disappearing?

How did the new cultures take root, where did they come from, since Upper Paleolithic cultures were not transformed on site, on this territory?

These cultures often originated in Central Europe or around it, such as the Aurignacian, the Gravettian, etc. But how did these cultures move around and influence the new territories, to the point of supplanting an ancient culture?